



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,244	12/12/2005	Toshiaki Kashiara	Q91286	4994

23373 7590 04/12/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

NGUYEN, HONG-VINH T

ART UNIT	PAPER NUMBER
----------	--------------

2809

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/560,244	Applicant(s) KASHIHARA ET AL.	
	Examiner Hong-Vinh Nguyen	Art Unit 2809	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12 Dec 2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because certain phrases in the disclosure are found to be unclear:

Page 1 line 17: "...separately disposed in **space one another...**"

Page 2 line 24: "... connecting the slot-in **portions each other...**"

Page 6 line 11: "...is **geared each other...**"

Page 11 line 22: "...in two lines **closely each other.**"

Page 12 line 3: "... no **space each other** circumferentially."

Page 12 line 21: "...one lines **closely each other.**"

Page 12 line 24: "...41c with no **space each other** circumferentially."

Page 16 line 9: "...is rounded to butt its end **surfaces each other** and..."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (US 2002/0043886 A1) and further in view of Umeda et al. (US 5,936,326).

Claim 1: Fujita et al. discloses an alternator comprising a rotor with a rotor coil, a stator arranged opposed to a rotor with an electrical conductor wound on the stator core

(Fig. 1). Fujita et al. further discloses a case made up of aluminum frames, this serves as a housing supporting the rotor and the stator ([0103]). The stator core is constituted by laminated core having slots, which hold the electrical conductor comprising of a rectangular slot-in portion and a circular crossover portion ([0103]). Fujita et al. does not specifically mention the size of the two portions of the conductor, however, Fujita et al. does teach that a varnish 26 is applied to the coil-end groups thereby improving the insulating characteristics ([0143]). With an extra coat of resin or varnish, the conductor thickness of the crossover portion must be greater than that of the conductor of the slot-in portion ([0144]).

Claim 2: Fujita et al. discloses a stator and conductor as in claim 1 above however Fujita et al. is silent on the rectangular conductor with the longer side being placed in the circumferential direction. Umeda et al. does teach a rectangular conductor being in the radial direction of the stator core and the longer side is in placed in the circumferential direction (Fig. 11). It would be obvious for a person having ordinary skill in the art to combine the teachings of Fujita et al. and Umeda et al. The motivation to do so would be to enable more configurations of the conductor to be realized as more conductor layers are added to the same slot.

Claim 3: Fujita et al. discloses a stator and conductor as in claim 1 above and further discloses that the cross-sectional shape of the slot-in portion of the conductor is rectangular and the long sides are placed in the radial direction of the stator core ([0113]).

Claim 4: Fujita et al. discloses a stator and conductor as in claim 1 above and further discloses that the slot-in portion is disposed on a line in the radial direction (Fig. 3).

Claim 5: Fujita et al. discloses a stator and conductor as in claim 1 above however, Fujita et al. fails to teach that the conductor of the slot-in portion being disposed on plural lines. Umeda et al. does teach that the conductor of the slot-in portion being disposed on plural lines in the radial direction (Fig. 3). It would be obvious for a person having ordinary skill in the art to combine the teachings of Fujita et al. and Umeda et al. One would be motivated to do so to improve heat radiation and improve performance of the device.

Claim 6: Fujita et al. disclose a stator and conductor as in claim 1 above yet fails to teach that the conductor of the slot-in portion located in the slot is impregnated with insulating resins. However, Umeda et al. does. Umeda et al. discloses that the conductor has an insulating cover film or a fixed insulating film formed by an impregnation process. It would be obvious for a person having ordinary skill in the art to combine the teachings of Fujita et al. and Umeda et al. One would be motivated to do so to prevent the conductor portions from interfering with one another, as well as the insulating the conductor from the stator core.

Claim 7: Fujita et al. discloses a stator and conductor as in claim 1 above and further discloses that the crossover portion is shielded by a case comprising of aluminum frames (Fig. 1 and [0103]). This is equivalent to the metallic housing as claimed in the instant application.

Claim 8: Fujita et al. discloses a stator and conductor as in claim 1 above and further discloses the charging and discharging air holes formed in the casing.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong-Vinh Nguyen whose telephone number is (571) 270 1743. The examiner can normally be reached on Monday through Friday 8 am to 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bruce can be reached on 571 272 2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HVN
HVN
05 Apr 2007


DAVID BRUCE
SUPERVISORY PATENT EXAMINER